

FIG. 1

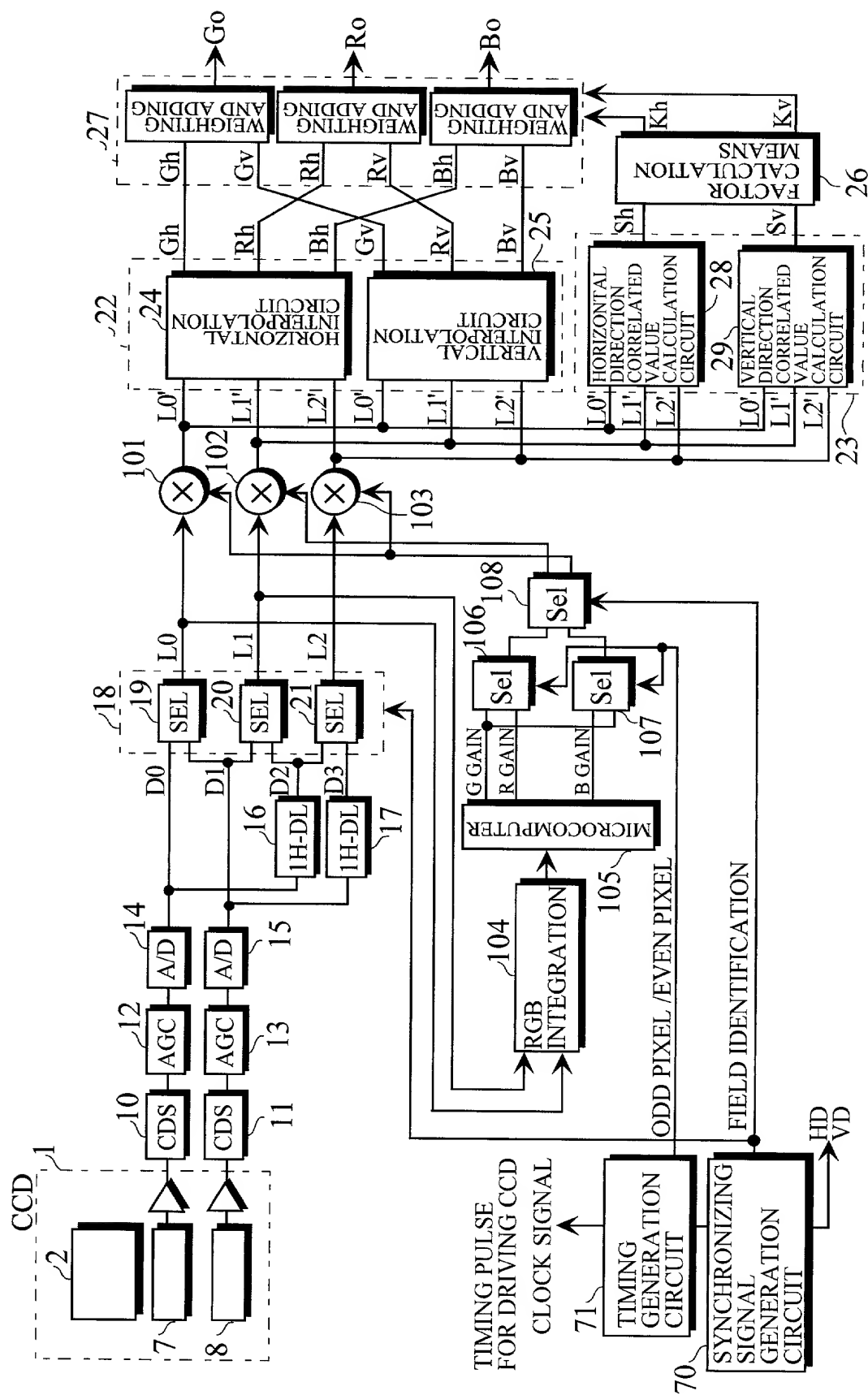


FIG. 2

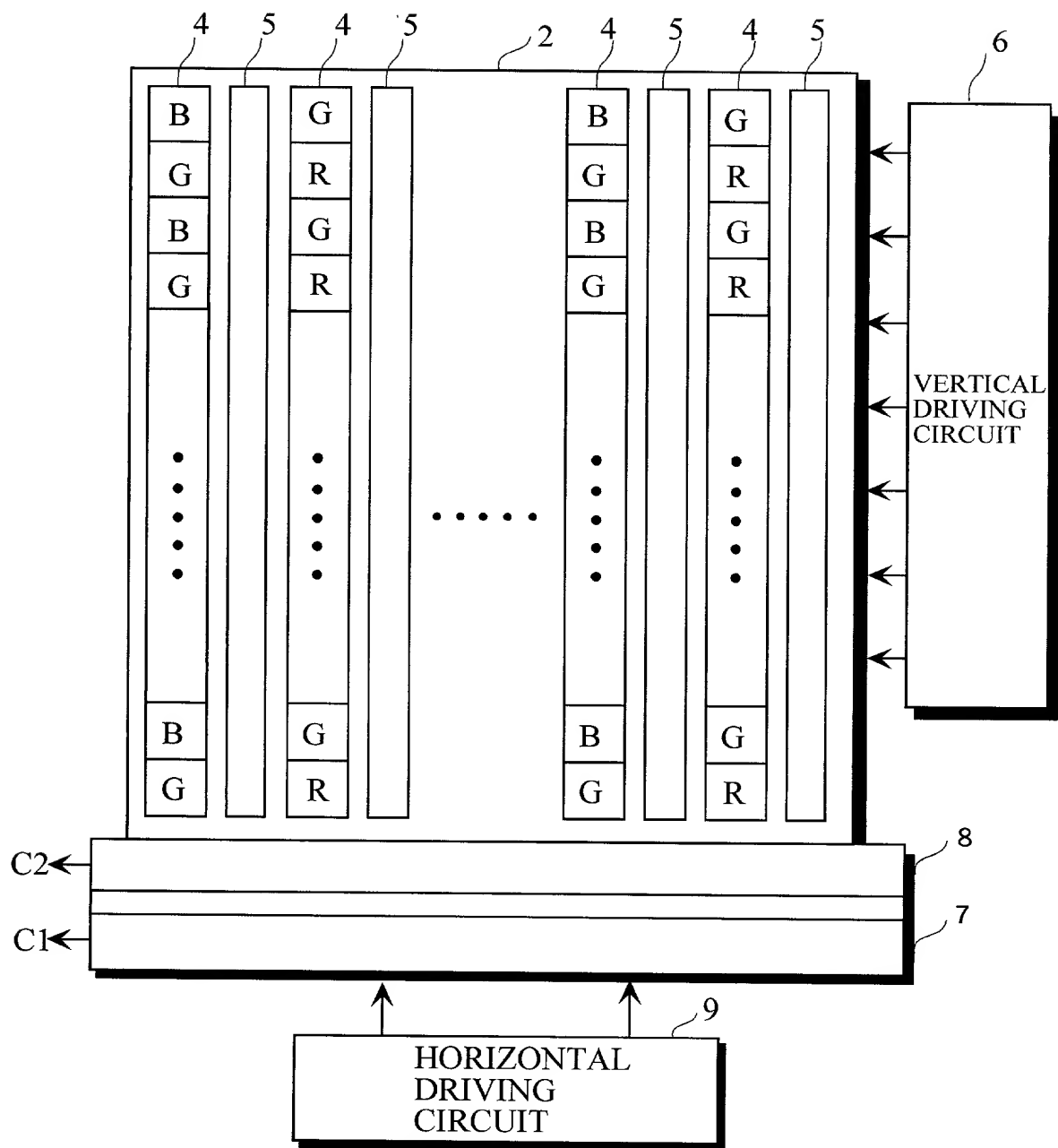


FIG. 3

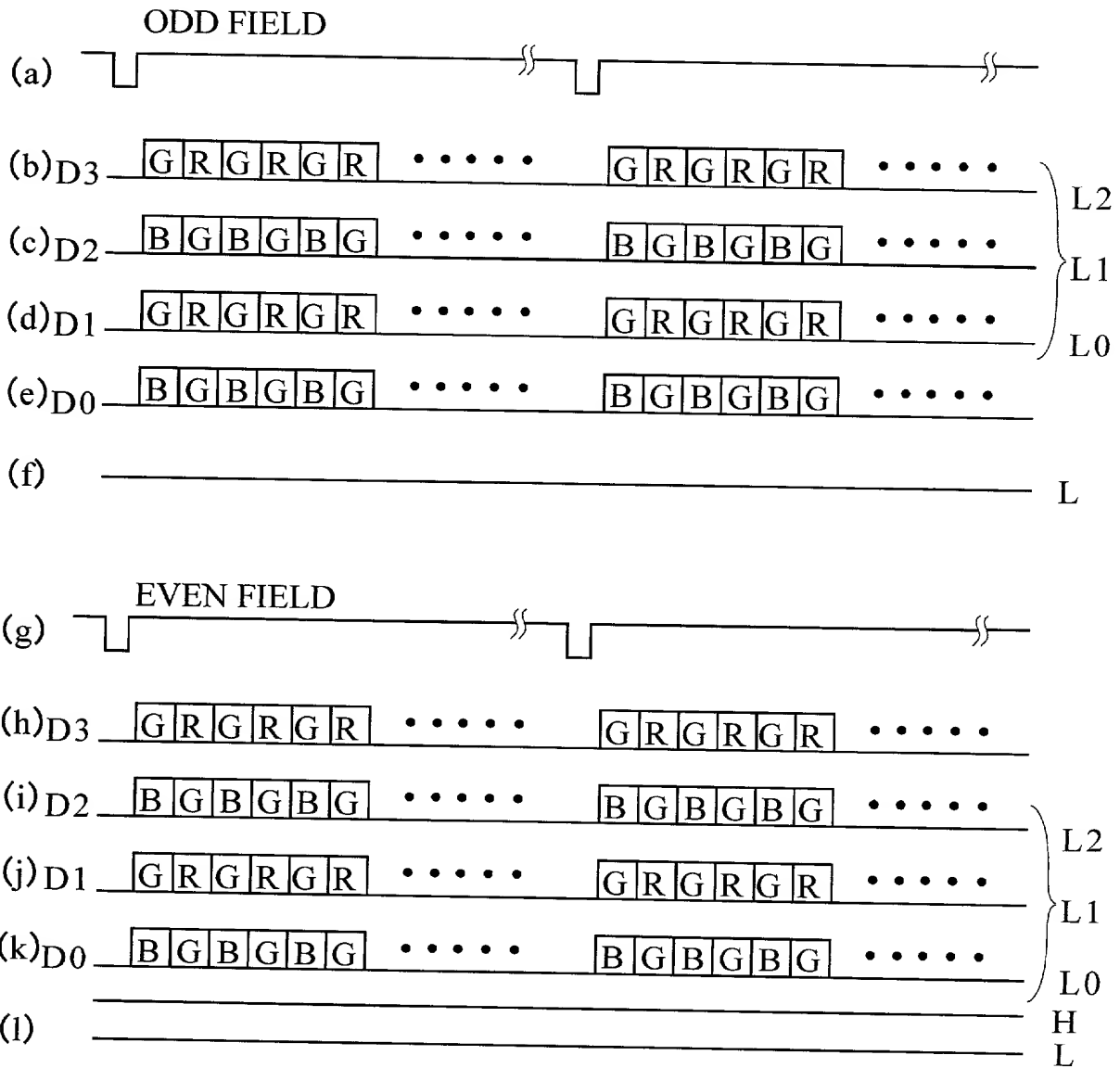


FIG. 4

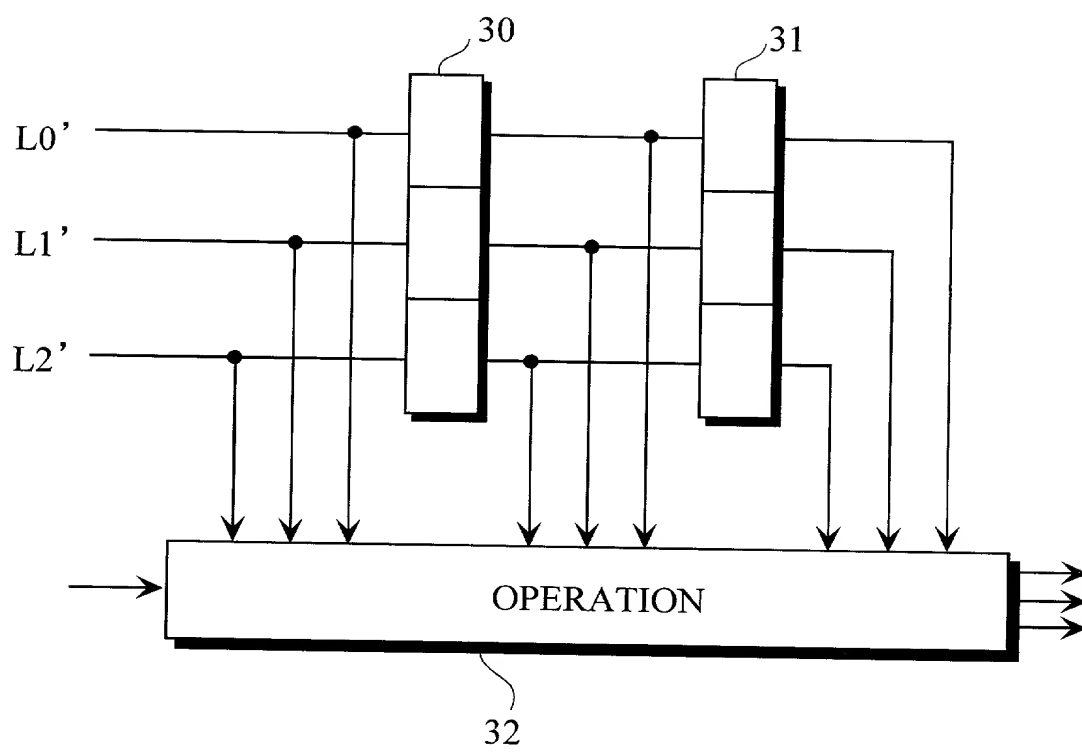


FIG. 5

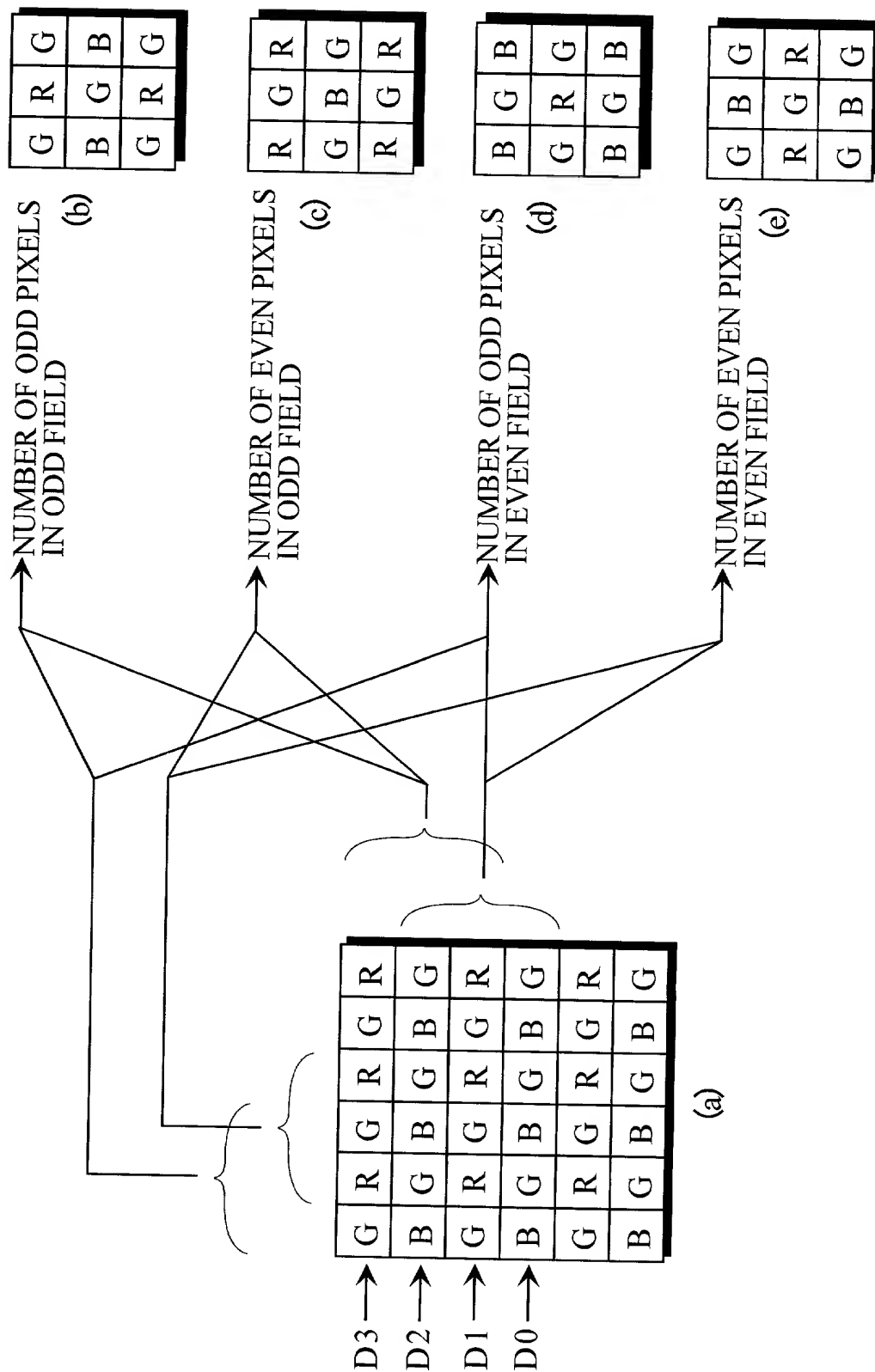


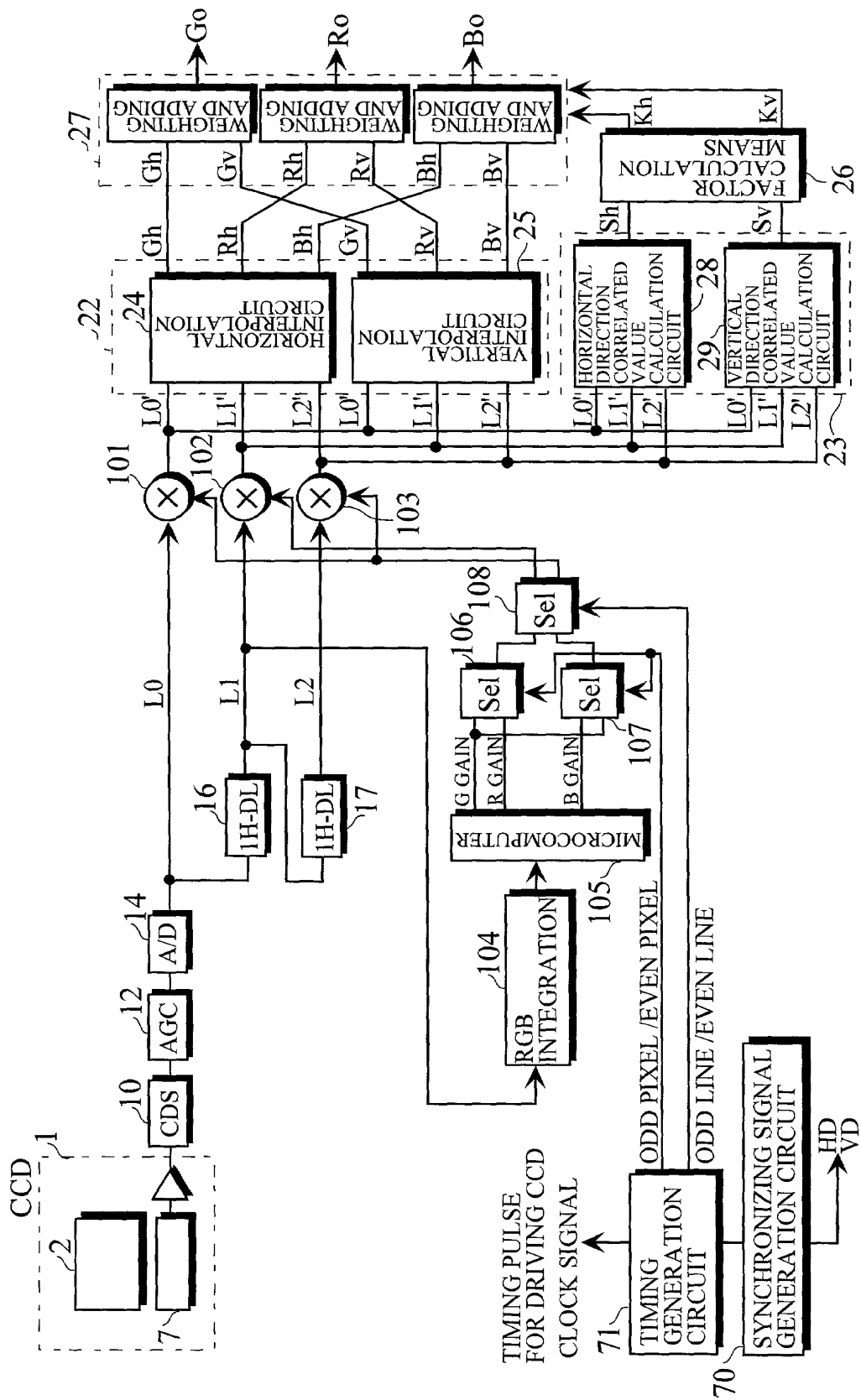
FIG. 6

ODD FIELD	METHOD OF INTERPOLATING G, R, B SIGNAL									
<p>ODD PIXEL</p> <table><tr><td>G11</td><td>R12</td><td>G13</td></tr><tr><td>B21</td><td>G22</td><td>B23</td></tr><tr><td>G31</td><td>R32</td><td>G33</td></tr></table>	G11	R12	G13	B21	G22	B23	G31	R32	G33	$G_h = g_{22}$ $B_h = (b_{21} + b_{23}) / 2$ $R_h = \frac{g_{22} * r_{12}}{g_{12}} = \frac{2(g_{22} * r_{12})}{g_{11} + g_{13}}$ $G_v = g_{22}$ $R_v = (r_{12} + r_{32}) / 2$ $B_v = \frac{g_{22} * b_{21}}{g_{21}} = \frac{2(g_{22} * b_{21})}{g_{11} + g_{31}}$
G11	R12	G13								
B21	G22	B23								
G31	R32	G33								
<p>EVEN PIXEL</p> <table><tr><td>R11</td><td>G12</td><td>R13</td></tr><tr><td>G21</td><td>B22</td><td>G23</td></tr><tr><td>R31</td><td>G32</td><td>R33</td></tr></table>	R11	G12	R13	G21	B22	G23	R31	G32	R33	$B_h = b_{22}$ $G_h = (g_{21} + g_{23}) / 2$ $R_h = \frac{g_{22} * r_{12}}{g_{12}} = \frac{(g_{21} + g_{23})(r_{11} + r_{13})}{4g_{12}}$ $B_v = b_{22}$ $G_v = (g_{12} + g_{32}) / 2$ $R_v = \frac{r_{21} * g_{22}}{g_{21}} = \frac{(r_{11} + r_{31})(g_{12} + g_{32})}{4g_{21}}$
R11	G12	R13								
G21	B22	G23								
R31	G32	R33								

FIG. 7

ODD/ EVEN FIELD	METHOD OF CALCULATING VERTICAL CORRELATED VALUE (Sv) AND HORIZONTAL CORRELATED VALUE (Sh)									
<table><tr><td>D11</td><td>D12</td><td>D13</td></tr><tr><td>D21</td><td>D22</td><td>D23</td></tr><tr><td>D31</td><td>D32</td><td>D33</td></tr></table>	D11	D12	D13	D21	D22	D23	D31	D32	D33	$S_v =  (d_{11} + 2 \times d_{12} + d_{13}) - (d_{21} + 2 \times d_{22} + d_{23}) $ $+  (d_{21} + 2 \times d_{22} + d_{23}) - (d_{31} + 2 \times d_{32} + d_{33}) $ $S_h =  (d_{11} + 2 \times d_{21} + d_{31}) - (d_{12} + 2 \times d_{22} + d_{32}) $ $+  (d_{12} + 2 \times d_{22} + d_{32}) - (d_{13} + 2 \times d_{23} + d_{33}) $
D11	D12	D13								
D21	D22	D23								
D31	D32	D33								

FIG. 8





[illegible]

FIG. 10

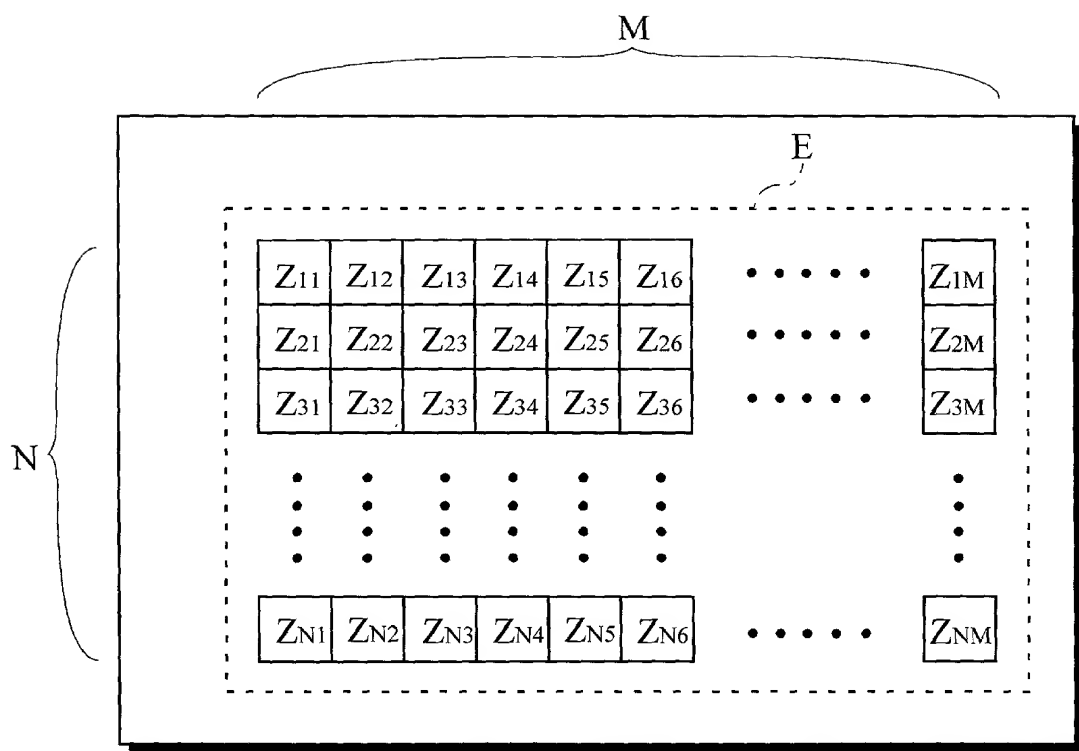


FIG. 11

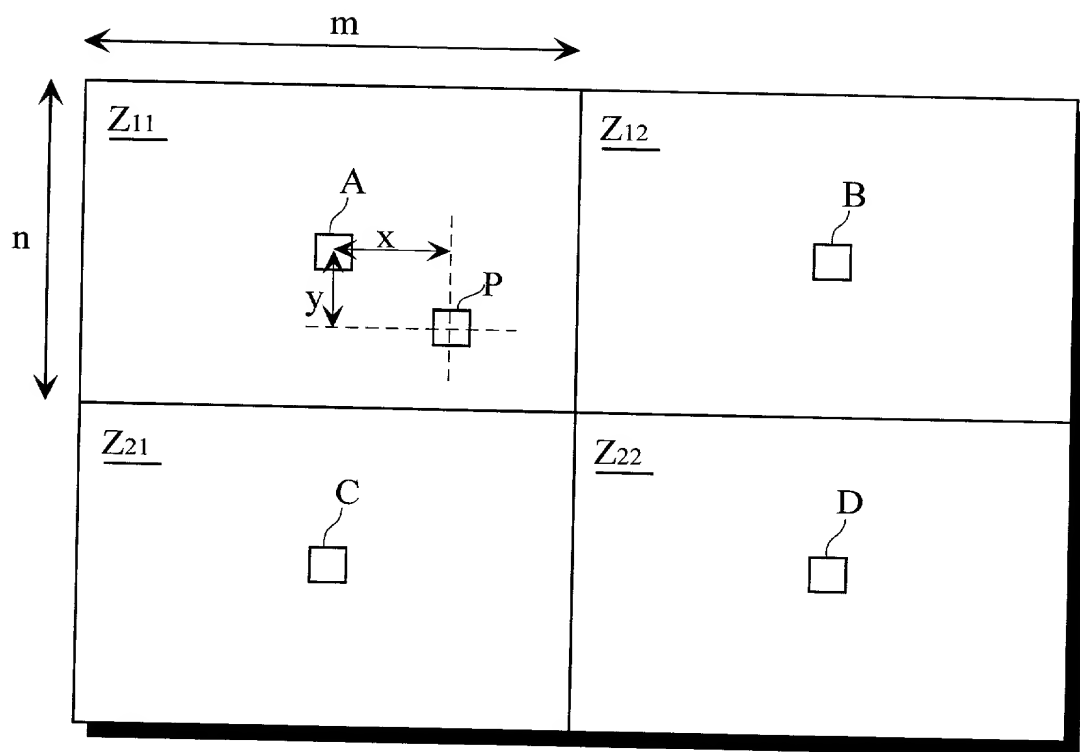


FIG. 12

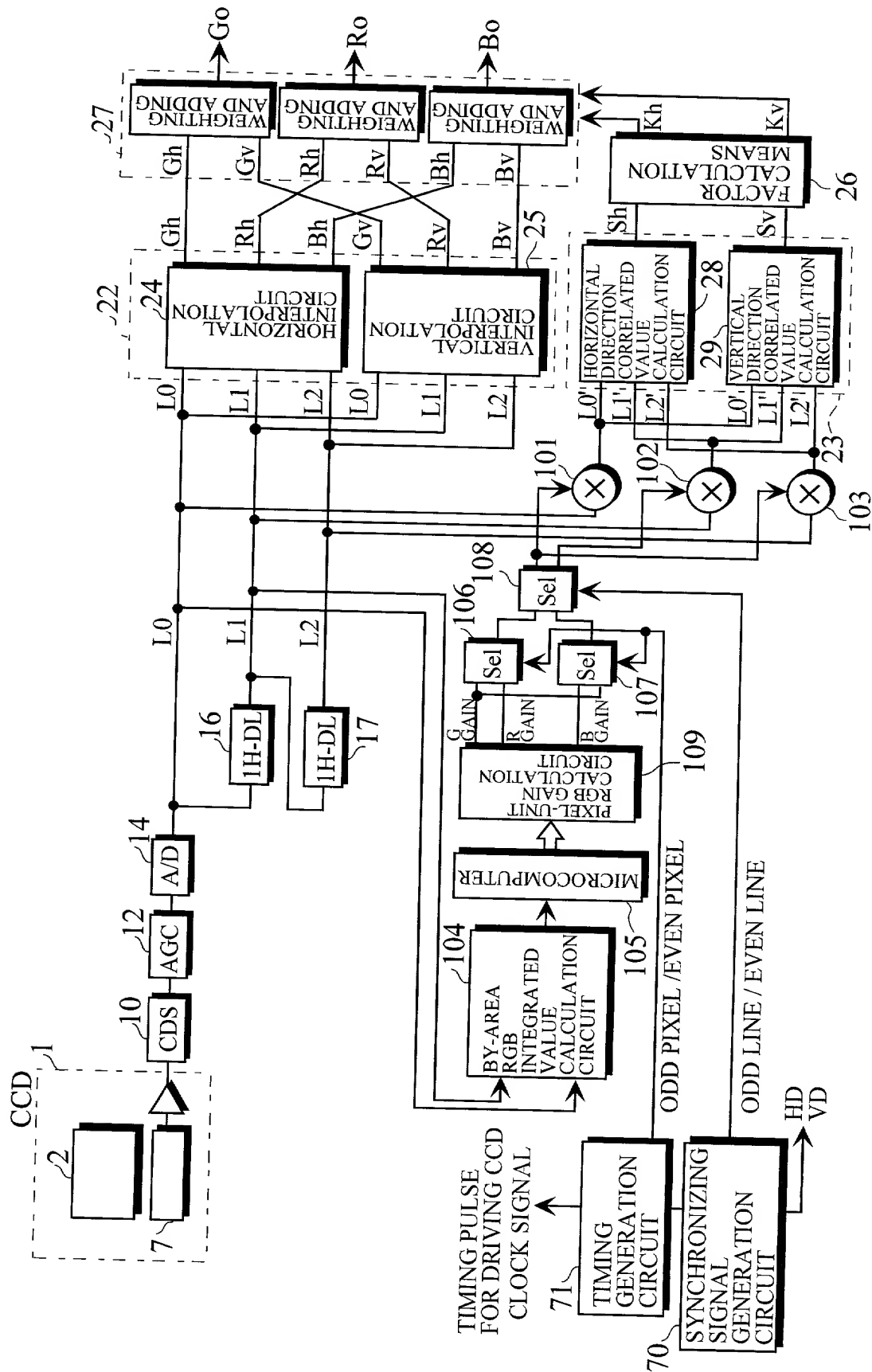


FIG. 13

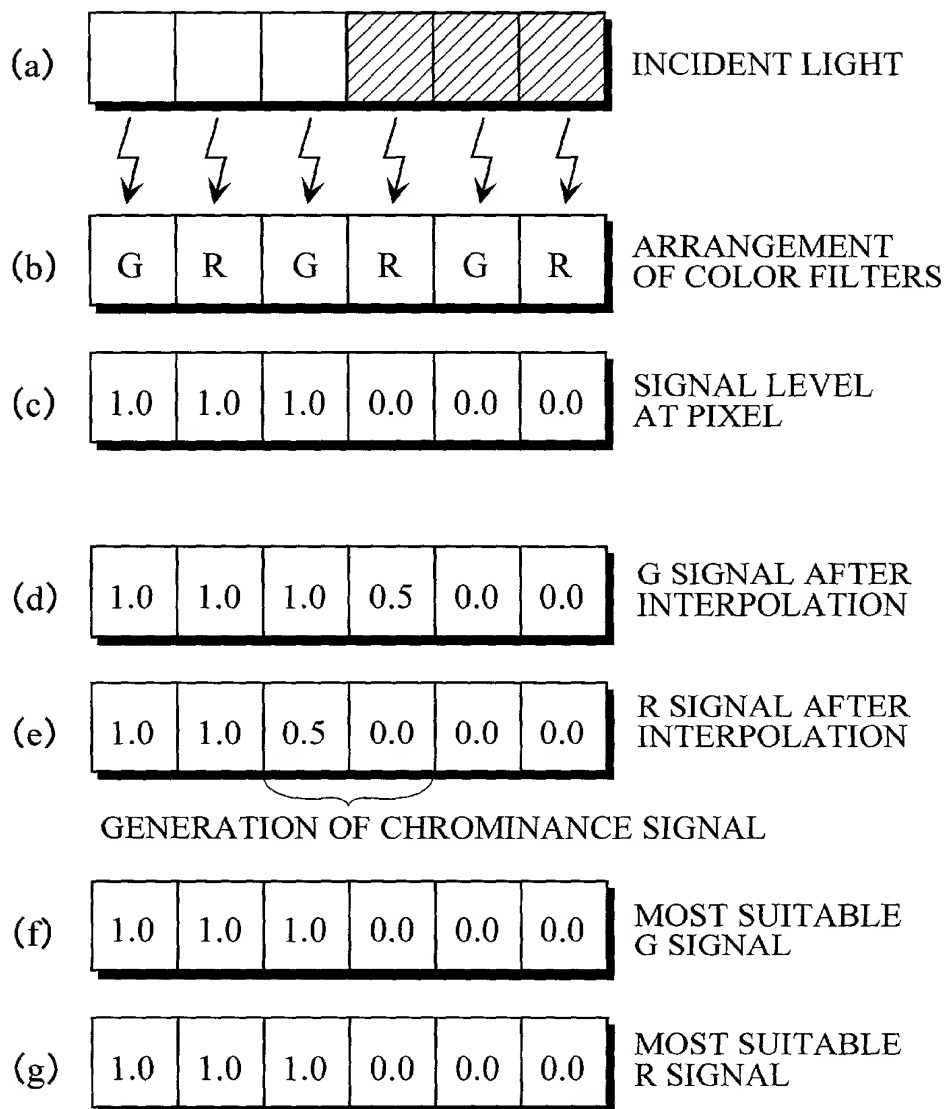


FIG. 14

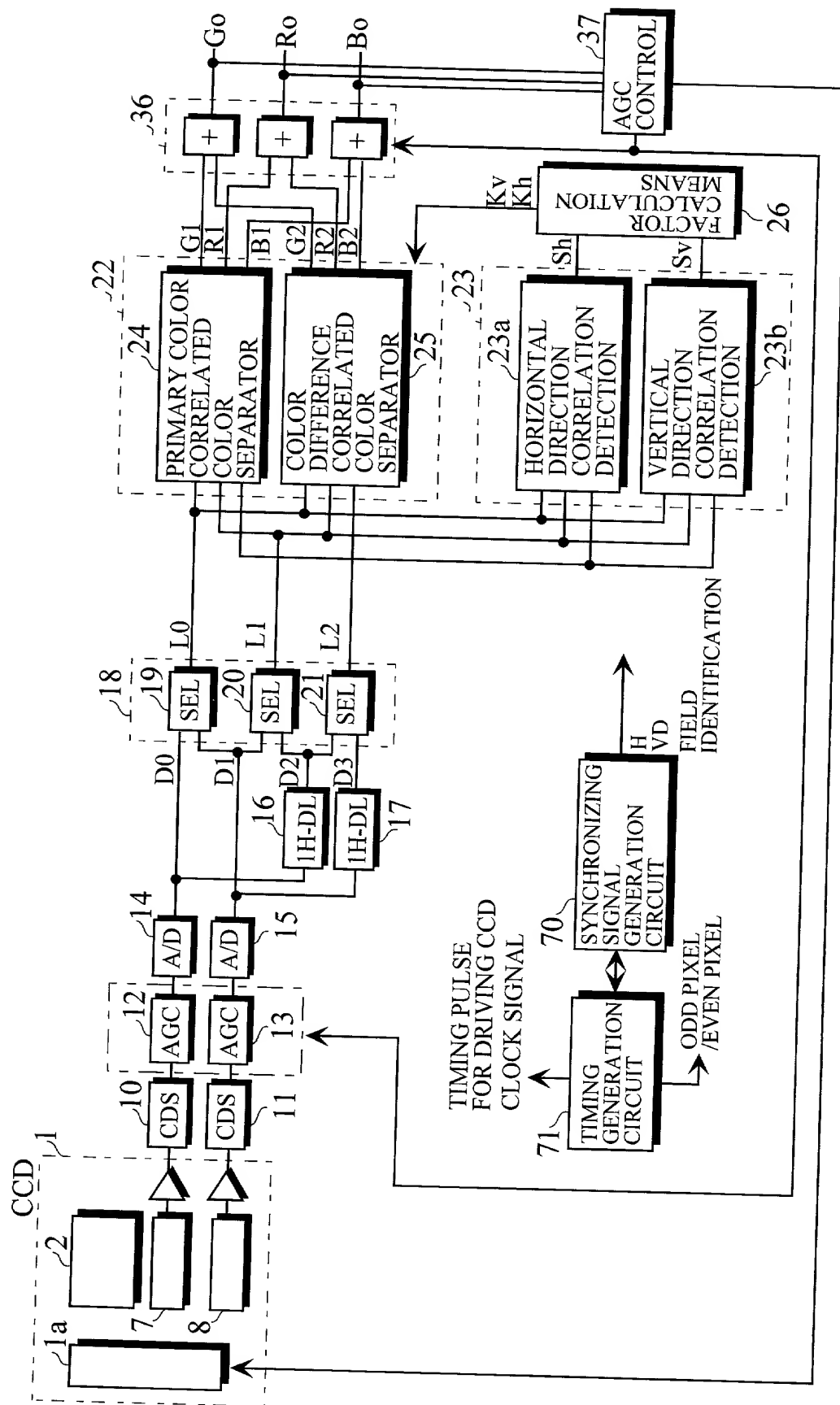


FIG. 15

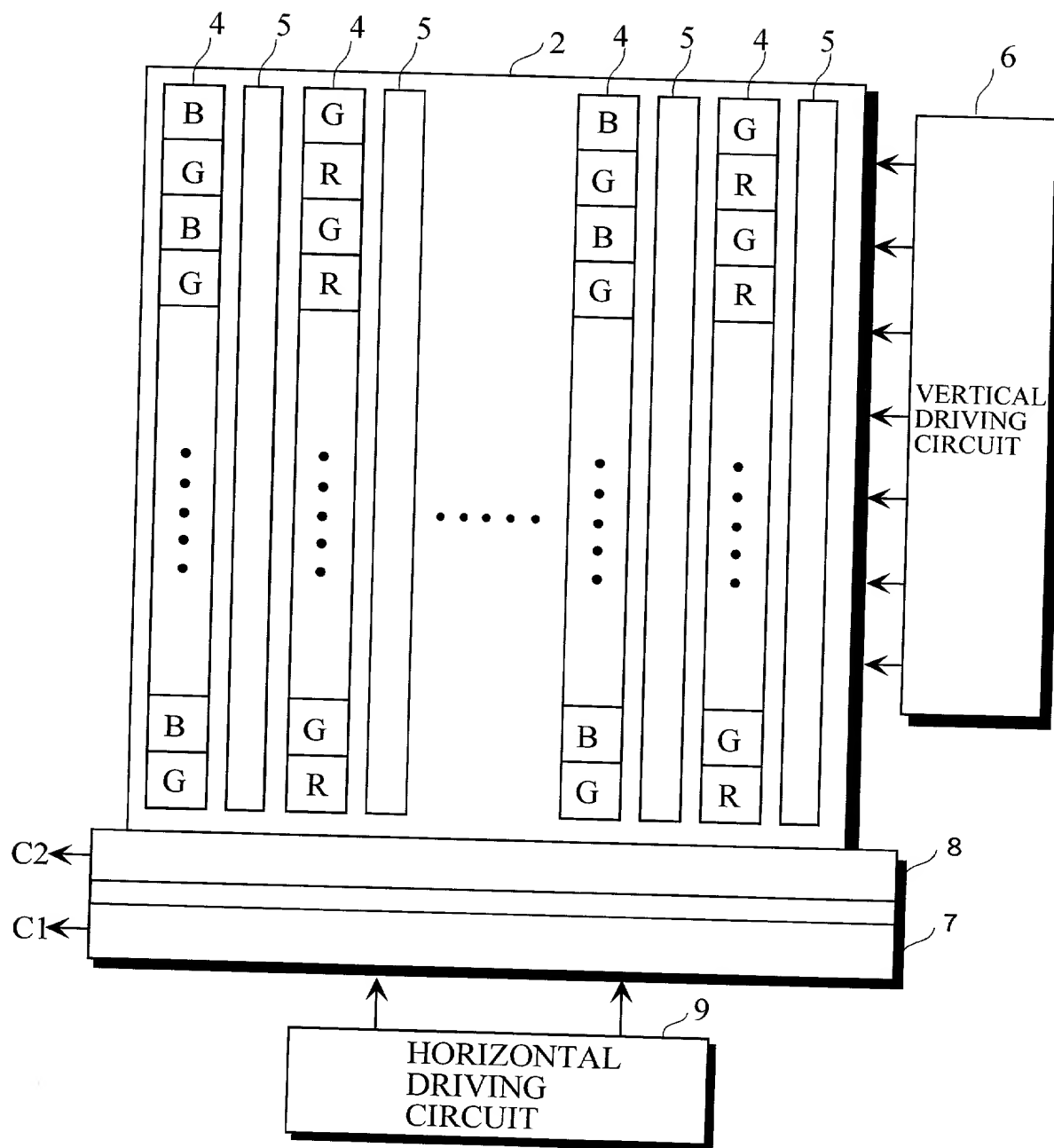


FIG. 16

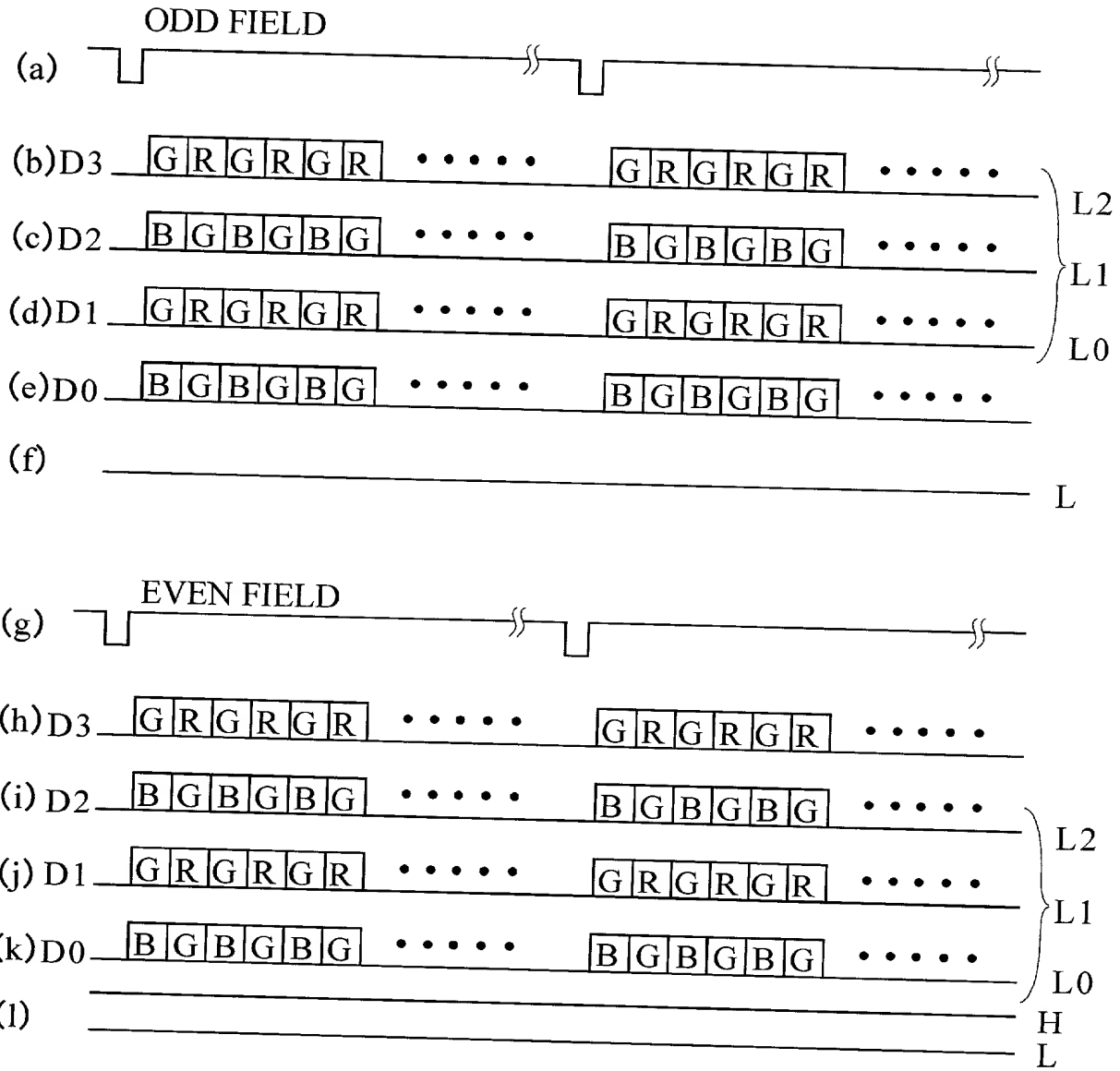




FIG. 17

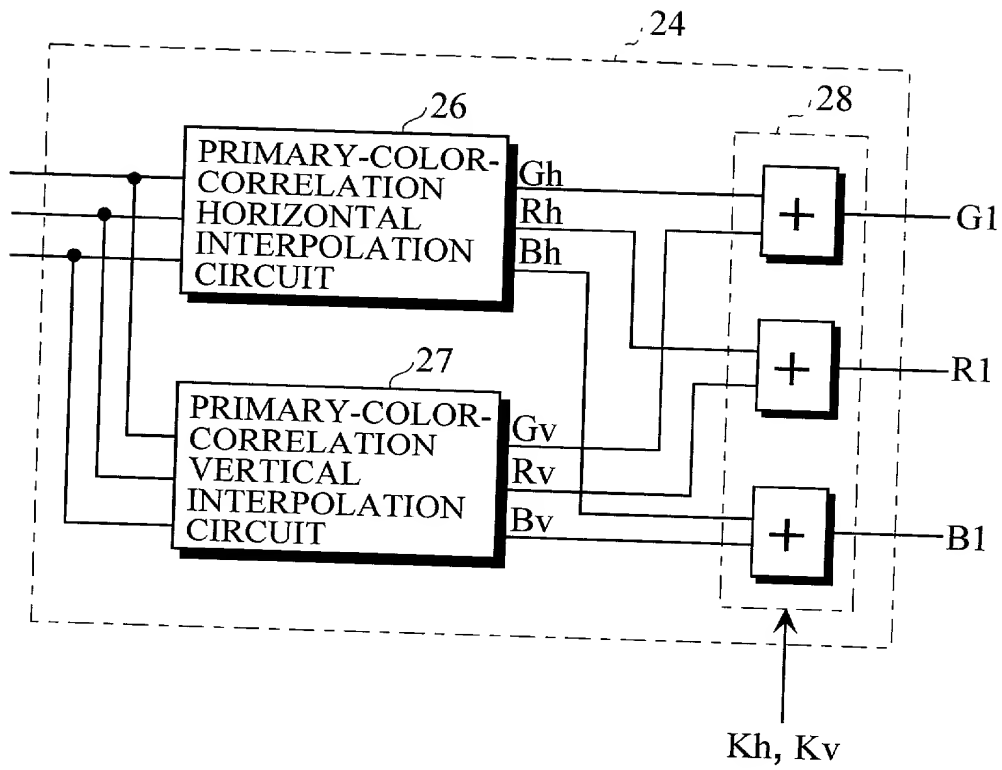


FIG. 18

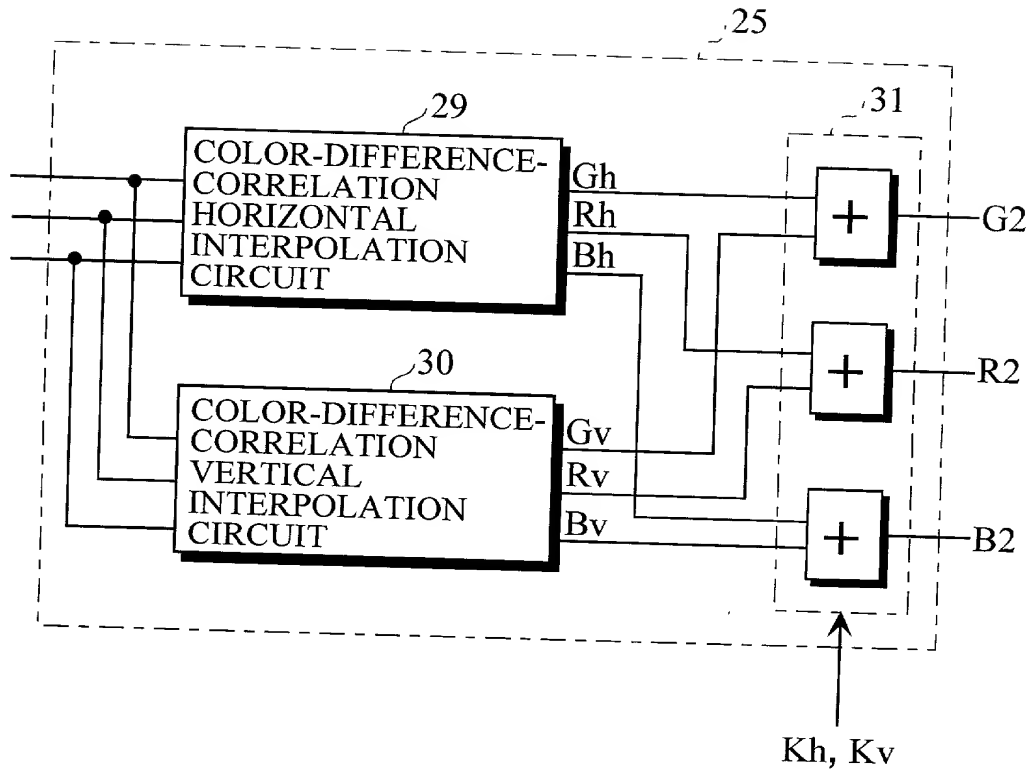


FIG. 19

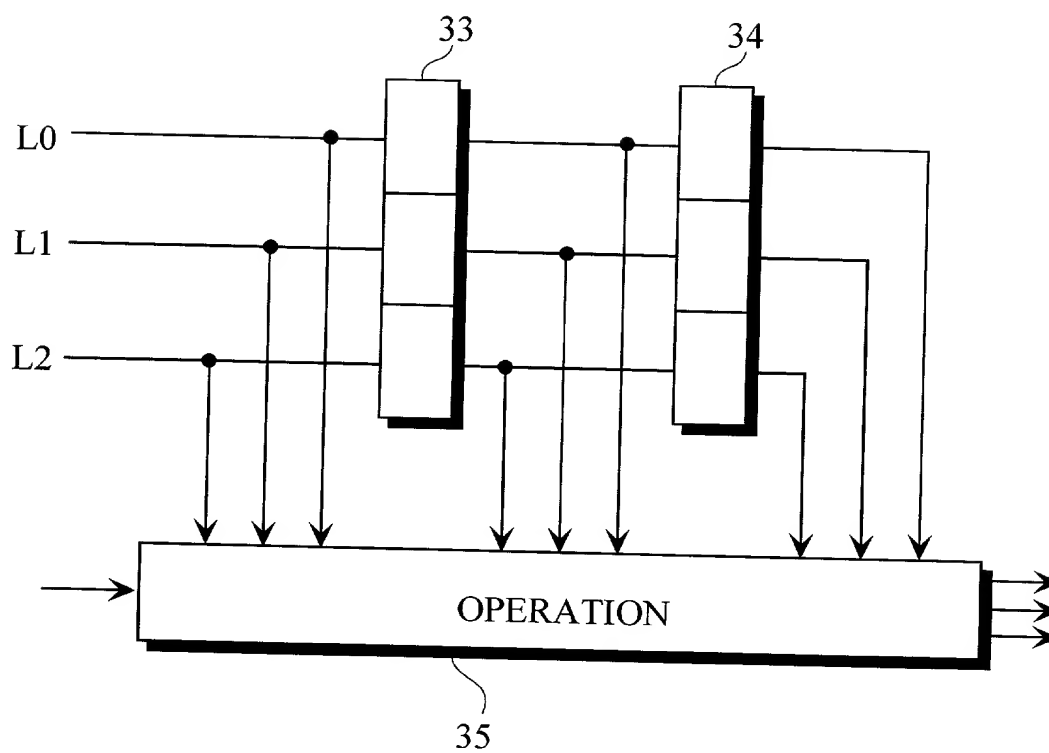


FIG. 20

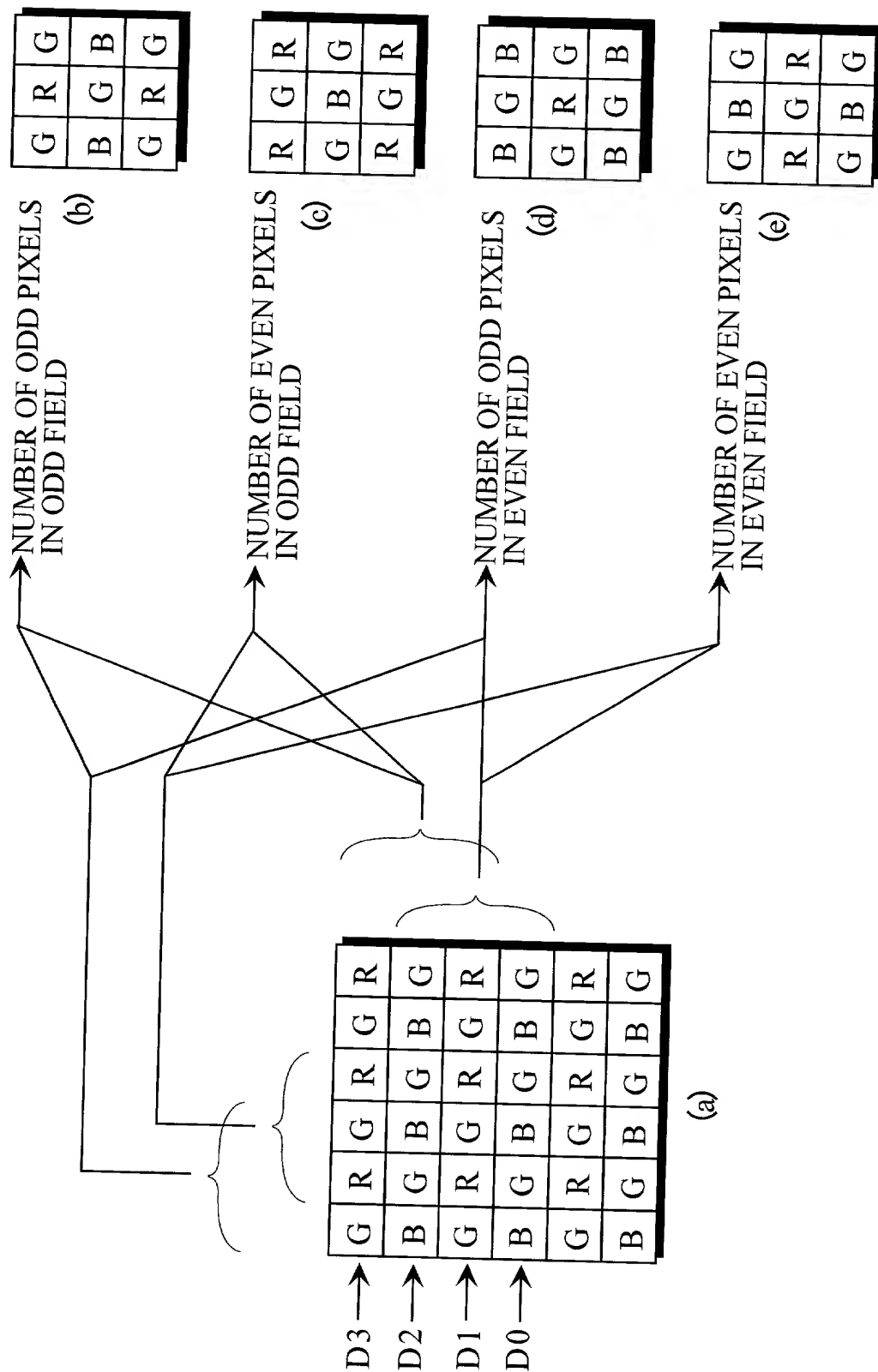


FIG. 21

ODD FIELD	METHOD OF INTERPOLATING G, R, B SIGNAL									
<p>ODD PIXEL</p> <table><tr><td>G11</td><td>R12</td><td>G13</td></tr><tr><td>B21</td><td>G22</td><td>B23</td></tr><tr><td>G31</td><td>R32</td><td>G33</td></tr></table>	G11	R12	G13	B21	G22	B23	G31	R32	G33	$G_h = G_{22}$ $B_h = (B_{21} + B_{23}) / 2$ $R_h = \frac{G_{22} \times R_{12}}{G_{12}} = \frac{2(G_{22} \times R_{12})}{G_{11} + G_{13}}$ $G_v = G_{22}$ $R_v = (R_{12} + R_{32}) / 2$ $B_v = \frac{G_{22} \times B_{21}}{G_{21}} = \frac{2(G_{22} \times B_{21})}{G_{11} + G_{31}}$
G11	R12	G13								
B21	G22	B23								
G31	R32	G33								
<p>EVEN PIXEL</p> <table><tr><td>R11</td><td>G12</td><td>R13</td></tr><tr><td>G21</td><td>B22</td><td>G23</td></tr><tr><td>R31</td><td>G32</td><td>R33</td></tr></table>	R11	G12	R13	G21	B22	G23	R31	G32	R33	$B_h = B_{22}$ $G_h = (G_{21} + G_{23}) / 2$ $R_h = \frac{G_{22} \times R_{12}}{G_{12}} = \frac{(G_{21} + G_{23})(R_{11} + R_{13})}{4 \times G_{12}}$ $B_v = B_{22}$ $G_v = (G_{12} + G_{32}) / 2$ $R_v = \frac{R_{21} \times G_{22}}{G_{21}} = \frac{(R_{11} + R_{31})(G_{12} + G_{32})}{4 \times G_{21}}$
R11	G12	R13								
G21	B22	G23								
R31	G32	R33								

FIG. 22

ODD FIELD	METHOD OF CALCULATING VERTICAL CORRELATED VALUE (Sv) AND HORIZONTAL CORRELATED VALUE (Sh)									
<p>ODD PIXEL</p> <table><tr><td>G11</td><td>R12</td><td>G13</td></tr><tr><td>B21</td><td>G22</td><td>B23</td></tr><tr><td>G31</td><td>R32</td><td>G33</td></tr></table>	G11	R12	G13	B21	G22	B23	G31	R32	G33	$S_v =   (G11 + G13) / 2 - (G31 + G33) / 2  $ $S_h =   (G11 + G31) / 2 - (G13 + G33) / 2  $
G11	R12	G13								
B21	G22	B23								
G31	R32	G33								
<p>EVEN PIXEL</p> <table><tr><td>R11</td><td>G12</td><td>R13</td></tr><tr><td>G21</td><td>B22</td><td>G23</td></tr><tr><td>R31</td><td>G32</td><td>R33</td></tr></table>	R11	G12	R13	G21	B22	G23	R31	G32	R33	$S_v =   G12 - G32  $ $S_h =   G21 - G23  $
R11	G12	R13								
G21	B22	G23								
R31	G32	R33								

FIG. 23

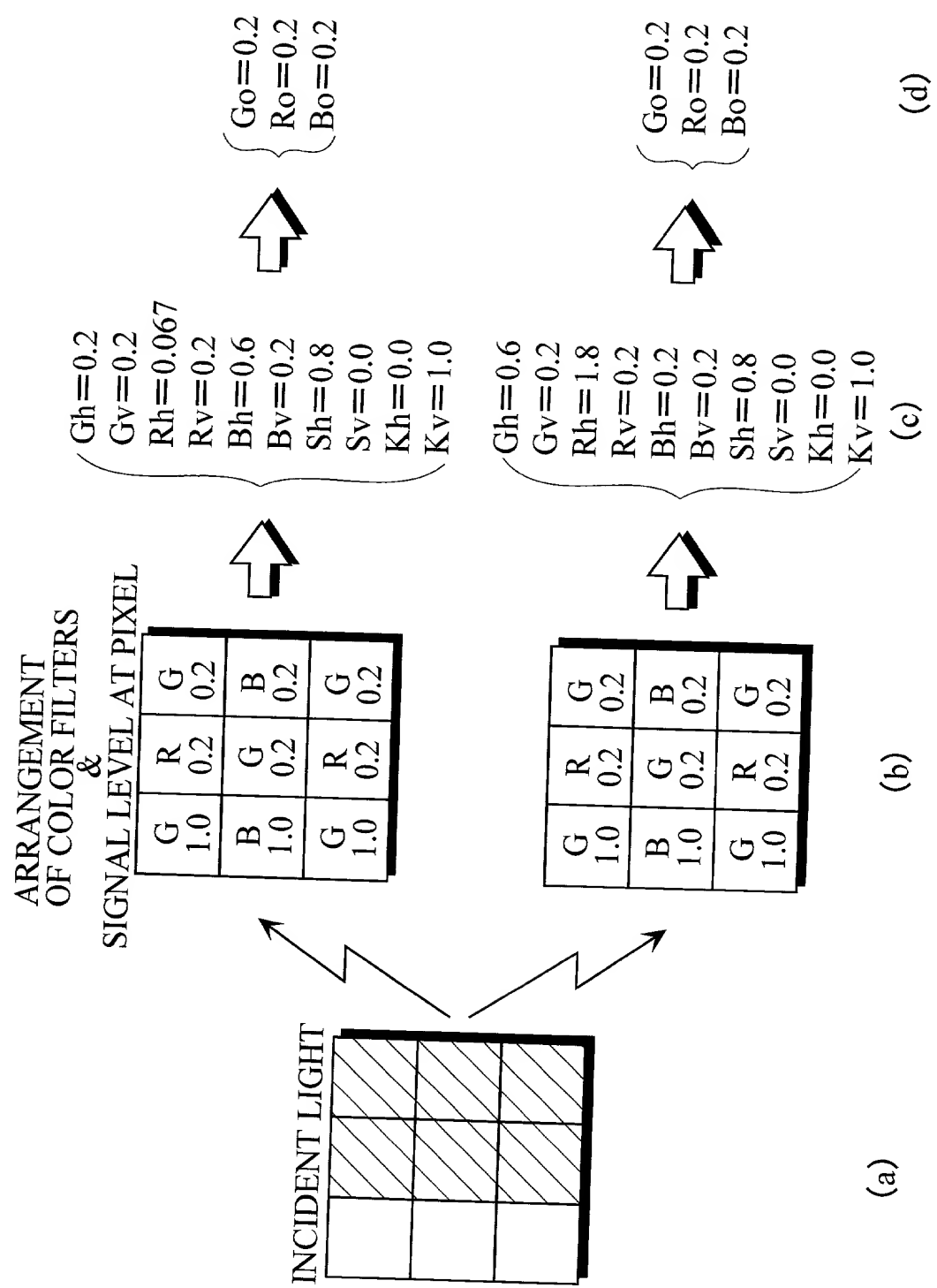


FIG. 24

ODD FIELD	METHOD OF INTERPOLATING G, R, B SIGNAL									
<p>ODD PIXEL</p> <table><tr><td>G11</td><td>R12</td><td>G13</td></tr><tr><td>B21</td><td>G22</td><td>B23</td></tr><tr><td>G31</td><td>R32</td><td>G33</td></tr></table>	G11	R12	G13	B21	G22	B23	G31	R32	G33	$G_h = G_{22}$ $R_h = \frac{R_{12} + R_{32}}{2} - \frac{G_{11} + G_{13} + G_{31} + G_{33}}{4} + G_{22}$ $B_h = \frac{B_{21} + B_{23}}{2}$ $G_v = G_{22}$ $R_v = \frac{R_{12} + R_{32}}{2}$ $B_v = \frac{B_{21} + B_{23}}{2} - \frac{G_{11} + G_{13} + G_{31} + G_{33}}{4} + G_{22}$
G11	R12	G13								
B21	G22	B23								
G31	R32	G33								
<p>EVEN PIXEL</p> <table><tr><td>R11</td><td>G12</td><td>R13</td></tr><tr><td>G21</td><td>B22</td><td>G23</td></tr><tr><td>R31</td><td>G32</td><td>R33</td></tr></table>	R11	G12	R13	G21	B22	G23	R31	G32	R33	$G_h = \frac{G_{21} + G_{23}}{2}$ $R_h = \frac{R_{11} + R_{13} + R_{31} + R_{33}}{4} - \frac{G_{12} + G_{32}}{2} + \frac{G_{21} + G_{23}}{2}$ $B_h = B_{22}$ $G_v = \frac{G_{12} + G_{32}}{2}$ $R_v = \frac{R_{11} + R_{13} + R_{31} + R_{33}}{4} + \frac{G_{12} + G_{32}}{2} - \frac{G_{21} + G_{23}}{2}$ $B_v = B_{22}$
R11	G12	R13								
G21	B22	G23								
R31	G32	R33								



FIG. 25

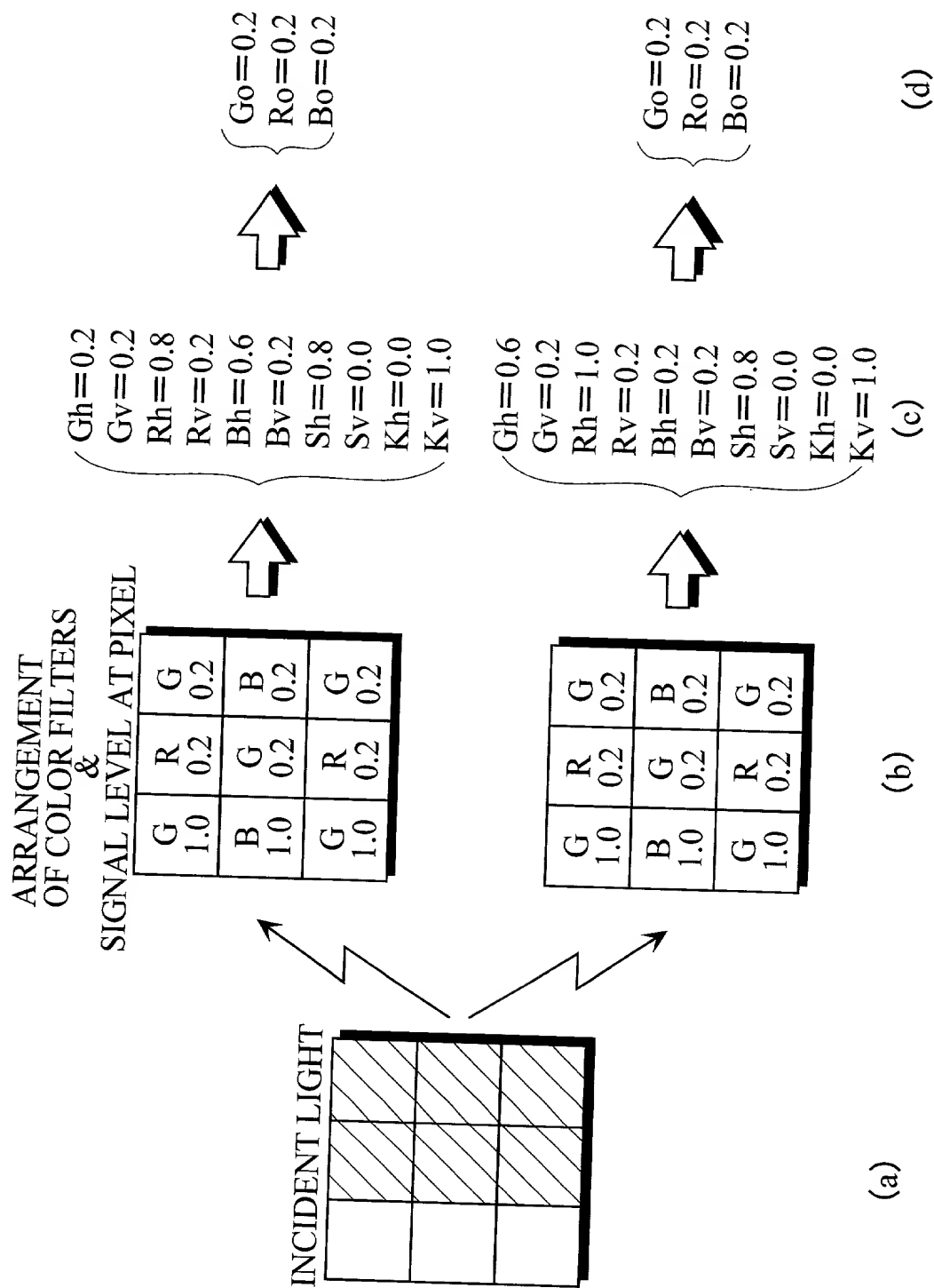


FIG. 26

ODD FIELD	METHOD OF INTERPOLATING G,R,B SIGNAL																									
<div>ODD PIXEL</div> <table><tr><td>G11</td><td>B12</td><td>G13</td><td>B14</td><td>G15</td></tr><tr><td>R21</td><td>G22</td><td>R23</td><td>G24</td><td>R25</td></tr><tr><td>G31</td><td>B32</td><td>G33</td><td>B34</td><td>G35</td></tr><tr><td>R41</td><td>G42</td><td>R43</td><td>G44</td><td>R45</td></tr><tr><td>G51</td><td>B52</td><td>G53</td><td>B54</td><td>G55</td></tr></table>	G11	B12	G13	B14	G15	R21	G22	R23	G24	R25	G31	B32	G33	B34	G35	R41	G42	R43	G44	R45	G51	B52	G53	B54	G55	<div><math>G_h = G_{33}</math></div> <div><math>R_h = \frac{G_{33} \times (R_{21} + 6 \times R_{23} + R_{25})}{4 \times (G_{22} + G_{24})}</math></div> <div><math>B_h = \frac{4 \times (B_{32} + B_{34}) \times G_{33}}{G_{31} + 6 \times G_{33} + G_{35}}</math></div> <div><math>G_v = G_{33}</math></div> <div><math>R_v = \frac{4 \times (R_{23} + R_{43}) \times G_{33}}{G_{13} + 6 \times G_{33} + G_{53}}</math></div> <div><math>B_v = \frac{G_{33} \times (B_{12} + 6 \times B_{32} + B_{52})}{4 \times (G_{22} + G_{42})}</math></div>
G11	B12	G13	B14	G15																						
R21	G22	R23	G24	R25																						
G31	B32	G33	B34	G35																						
R41	G42	R43	G44	R45																						
G51	B52	G53	B54	G55																						
<div>EVEN PIXEL</div> <table><tr><td>B11</td><td>G12</td><td>B13</td><td>G14</td><td>B15</td></tr><tr><td>G21</td><td>R22</td><td>G23</td><td>R24</td><td>G25</td></tr><tr><td>B31</td><td>G32</td><td>B33</td><td>G34</td><td>B35</td></tr><tr><td>G41</td><td>R42</td><td>G43</td><td>R44</td><td>G45</td></tr><tr><td>B51</td><td>G52</td><td>B53</td><td>G54</td><td>B55</td></tr></table>	B11	G12	B13	G14	B15	G21	R22	G23	R24	G25	B31	G32	B33	G34	B35	G41	R42	G43	R44	G45	B51	G52	B53	G54	B55	<div><math>G_h = \frac{4 \times (G_{32} + G_{34}) \times B_{33}}{B_{31} + 6 \times B_{33} + B_{35}}</math></div> <div><math>R_h = \frac{4 \times (R_{22} + R_{24}) \times G_{35}}{G_{21} + 6 \times G_{23} + G_{25}}</math></div> <div><math>B_h = B_{33}</math></div> <div><math>G_v = \frac{4 \times (G_{23} + G_{43}) \times B_{33}}{B_{13} + 6 \times B_{33} + B_{53}}</math></div> <div><math>R_v = \frac{4 \times (R_{22} + R_{42}) \times G_{33}}{G_{12} + 6 \times G_{32} + G_{52}}</math></div> <div><math>B_v = B_{33}</math></div>
B11	G12	B13	G14	B15																						
G21	R22	G23	R24	G25																						
B31	G32	B33	G34	B35																						
G41	R42	G43	R44	G45																						
B51	G52	B53	G54	B55																						

FIG. 27

ODD FIELD		METHOD OF INTERPOLATING G,R,B SIGNAL	
ODD PIXEL		$G_h = G_{33}$	
G11	B12	$R_h = \frac{R_{21} - 2 \times R_{23} + R_{25}}{8} - \frac{G_{22} + G_{24}}{2} + G_{33}$	
R21	G22	$B_h = \frac{B_{32} + B_{34}}{2} - \frac{G_{31} - 2 \times G_{33} + G_{35}}{8}$	
G31	B32	$G_v = G_{33}$	
R41	G42	$R_v = \frac{R_{23} + R_{43}}{2} - \frac{G_{13} - 2 \times G_{33} + G_{53}}{8}$	
G51	B52	$B_v = \frac{B_{12} - 2 \times B_{32} + B_{52}}{8} - \frac{G_{22} + G_{42}}{2} + G_{33}$	
EVEN PIXEL		$G_h = \frac{G_{32} + G_{34}}{2} - \frac{B_{31} - 2 \times B_{33} + G_{35}}{8}$	
B11	G12	$R_h = \frac{R_{22} + R_{24}}{2} - \frac{G_{21} + 6 \times G_{23} + G_{25}}{8} + \frac{G_{32} + G_{34}}{2} - \frac{B_{31} - 2 \times B_{33} + B_{35}}{8}$	
G21	R22	$B_h = B_{33}$	
B31	G32	$G_v = \frac{G_{23} + G_{43}}{2} - \frac{B_{13} - 2 \times B_{33} + B_{53}}{8}$	
G41	R42	$R_v = \frac{R_{22} + R_{42}}{2} - \frac{G_{12} + 6 \times G_{32} + G_{52}}{8} + \frac{G_{23} + G_{43}}{2} - \frac{B_{13} - 2 \times B_{33} + B_{53}}{8}$	
B51	G52	$B_v = B_{33}$	

FIG. 28

ODD FIELD	METHOD OF INTERPOLATING G,R,B SIGNAL																									
<div>ODD PIXEL</div> <table><tr><td>G11</td><td>B12</td><td>G13</td><td>B14</td><td>G15</td></tr><tr><td>R21</td><td>G22</td><td>R23</td><td>G24</td><td>R25</td></tr><tr><td>G31</td><td>B32</td><td>G33</td><td>B34</td><td>G35</td></tr><tr><td>R41</td><td>G42</td><td>R43</td><td>G44</td><td>R45</td></tr><tr><td>G51</td><td>B52</td><td>G53</td><td>B54</td><td>G55</td></tr></table>	G11	B12	G13	B14	G15	R21	G22	R23	G24	R25	G31	B32	G33	B34	G35	R41	G42	R43	G44	R45	G51	B52	G53	B54	G55	<div><math>G_h = G_{33}</math></div> <div><math>R_h = \frac{G_{33} \times (R_{21} + 6 \times R_{23} + R_{25})}{4 \times (G_{22} + G_{24})}</math></div> <div><math>B_h = \frac{B_{32} + B_{34}}{2} - \frac{G_{31} - 2 \times G_{33} + G_{35}}{8}</math></div> <div><math>G_v = G_{33}</math></div> <div><math>R_v = \frac{R_{23} + R_{43}}{2} - \frac{G_{13} - 2 \times G_{33} + G_{53}}{8}</math></div> <div><math>B_v = \frac{G_{33} \times (B_{12} + 6 \times B_{32} + B_{52})}{4 \times (G_{22} + G_{42})}</math></div>
G11	B12	G13	B14	G15																						
R21	G22	R23	G24	R25																						
G31	B32	G33	B34	G35																						
R41	G42	R43	G44	R45																						
G51	B52	G53	B54	G55																						
<div>EVEN PIXEL</div> <table><tr><td>B11</td><td>G12</td><td>B13</td><td>G14</td><td>B15</td></tr><tr><td>G21</td><td>R22</td><td>G23</td><td>R24</td><td>G25</td></tr><tr><td>B31</td><td>G32</td><td>B33</td><td>G34</td><td>B35</td></tr><tr><td>G41</td><td>R42</td><td>G43</td><td>R44</td><td>G45</td></tr><tr><td>B51</td><td>G52</td><td>B53</td><td>G54</td><td>B55</td></tr></table>	B11	G12	B13	G14	B15	G21	R22	G23	R24	G25	B31	G32	B33	G34	B35	G41	R42	G43	R44	G45	B51	G52	B53	G54	B55	<div><math>G_h = \frac{G_{32} + G_{34}}{2} - \frac{B_{31} - 2 \times B_{33} + B_{35}}{8}</math></div> <div><math>R_h = \frac{4 \times (R_{22} + R_{24})}{(G_{21} + 6 \times G_{23} + G_{25})} \times \left( \frac{G_{32} + G_{34}}{2} - \frac{B_{31} - 2 \times B_{33} + B_{35}}{8} \right)</math></div> <div><math>B_h = B_{33}</math></div> <div><math>G_v = \frac{G_{23} + G_{43}}{2} - \frac{B_{13} - 2 \times B_{33} + B_{53}}{8}</math></div> <div><math>R_v = \frac{2 \times (R_{22} + R_{42})}{(G_{12} + 6 \times G_{32} + G_{52})} \times \left( \frac{G_{23} + G_{43}}{2} - \frac{B_{13} - 2 \times B_{33} + B_{53}}{4} \right)</math></div> <div><math>B_v = B_{33}</math></div>
B11	G12	B13	G14	B15																						
G21	R22	G23	R24	G25																						
B31	G32	B33	G34	B35																						
G41	R42	G43	R44	G45																						
B51	G52	B53	G54	B55																						

FIG. 29

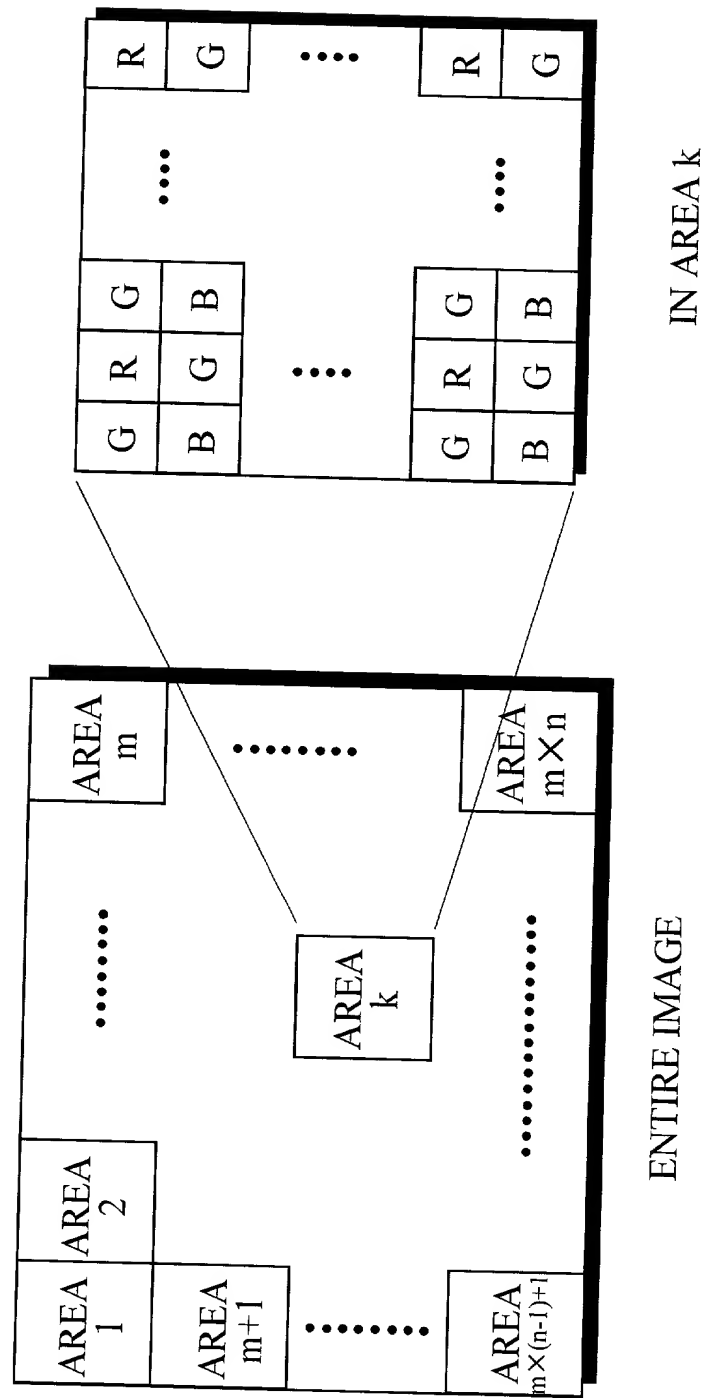


FIG. 30

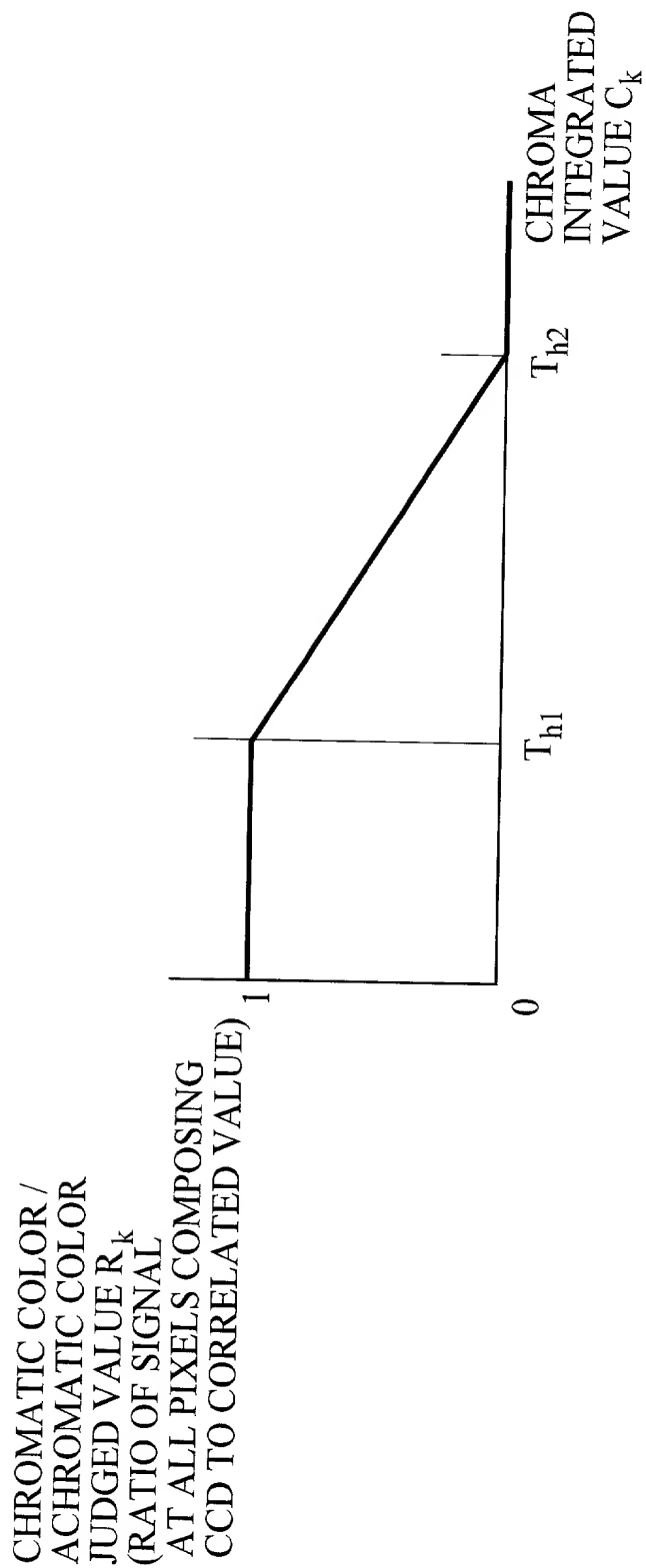


FIG. 31

